Physics ECAT Pre Engineering Chapter 11 Heat & Thermodynamics Online Test

Sr	Questions	Answers Choice
1	The value of E_0 in coulomb's law is:	A. 9 x 10⁹Nm²C⁻² B. 8.85 x 10⁻¹²C²N⁻¹m⁻² C. 8.85 x 10⁻¹²Nm²C⁻² D. 9 x 10⁹C²N⁻¹m⁻²
2	If the distance between two charges is doubled, the force between them will become:	A. Double B. Half C. Three times D. One fourth E. One third
3	Average KE of a gas molecule has:	A. Direct relation with absolute temperature and inverse relation with pressure B. Direction relation with both absolute temperature and pressure C. Inverse relation with both absolute temperature and pressure D. None of these
4	Gas constant per molecule is called:	A. Universal gas constant B. Stefen's constant C. Boltzmann constant D. Gravitation constant
5	Tick the correct pair when M denotes the molecular mass and other symbols carry usual meanings:	A. N = nN_Am = MN_A B. n = N N_A, M = mN_A C. M = N_A/N , N_A= m/n D. N = nN_A, M = mN_A
6	In the formula $P = N_0KT$, N_0 denotes:	A. Number of molecules per unit per volume B. Number of moles C. Number of molecules D. None of these
7	The volume of universal gas constant R is:	A. 8.314 J/K mole K B. 8314 J/K mole K C. 8.314 J/mole K D. None of these
8	If the formula PV = nRT, n denotes:	A. Number of molecules per unit volume B. Number of moles C. Number of molecules D. None of these
9	While deriving equation of pressure by kinetic theory of gases, we take into account:	A. Only linear motion of molecules B. Only rotational motion C. Only vibratory motion D. All of these
10	Pressure applied at any point of gas at rest is transmitted equally to all parts of the gas. This is the statement of:	A. Newton's second law B. Pascal's law C. Carnot theorem D. Second law of thermodynamics
11	If denotes the total number of molecules in cubic vessel such that m is mass of each milecule and l is length of each side of vessel, then mN/l^3 gives the:	A. Force B. Density C. Work done D. Pressure
12	The rate of change of momentum of a molecule is equal to:	A. Pressure B. Work

		C. Density D. Force
13	If a molecule with momentum mv strikes a wall and rebound then the change in momentum will be:	A. -2 mv B. Zero C. 2 mv D. mv
14	Pressure may be define as _____ per second per unit area:	A. Change in force B. Change in momentum C. Change in energy D. Work done
15	Truth of kinetic energy is confirmed by:	A. Diffusion of gases B. Brownian motion C. Both A and B D. None of these
16	Electromagnetic waves emitted by hot bodies are called:	A. Photoelectrons B. Alpha rays C. Thermal radiation D. None of these
17	The nature of thermal radiation is similar to:	A. Ultraviolet rays B. Light rays C. Both of them D. None of these
18	The relationship between Boltzmann constant k with R and N_A is given as:	A. k = RN_A B. k =R/N_A C. k = NR/N_A D. None of these
19	At constant temperature, if the density of the gas is increased, its pressure will:	A. One kg of a substance B. Unit volume of a substance C. One mole of a substance D. None of these
20	The motion of molecules in gases is:	A. Orderly B. Random C. Circular D. All of these
21	In an ideal gas, the molecules have:	A. Kinetic energy only B. Potential energy only C. Both KE and PE D. None of these
22	Which of the following does not have the same units:	A. Work B. Heat C. Kinetic energy D. Power
23	The temperature scale approved in SI units is:	A. Celsius scale B. Kelvin scale C. Fehrenheit scale D. None of these
24	In the theory of dimensional analysis, heat may be properly represented by:	A. ML²T⁻² B. MT⁻² C. ML⁻¹T⁻¹ D. None of these
25	The only significant motion possessed by the mono-atomic gas represented is:	A. Translatory B. Rotatory C. Vibratory D. None of these
26	At the constant temperature, if the value of a given mass of a gas is double, then the density of gas becomes:	A. Double B. Remains constant C. Half D. None of these
27	Real gases strictly obey gas law at:	A. High pressure and low temperatures B. Low pressures and high temperatures C. High pressures and high temperatures D. None of these
28	A gas which strictly obeys the gas laws under all conditions of temperature and pressure is called:	A. Ideal gas B. Inert gas C. Real gas D. None of these
29	When two objects come to common temperature, the body is said to be in:	A. Static equilibrium B. Dynamic equilibrium C. Thermal equilibrium D. None of these
		A. All liquid become gases

30	Absolute zero is considered as that temperature at which:	B. All gases become liquid C. Water freezes D. None of these